"Judgment in my estimation is the greatest safety factor you can have. Not only while the students are taking your course but for their safety after they leave your school and might do some of these things on their own."
Paul Petzoldt

Among the many competencies outdoor leaders need, perhaps the most important is the ability to make good decisions. Effective decision making, by both leaders and participants, is a cornerstone of adventure program risk management.

Outdoor leaders make decisions all the time. The types of decisions you make can be loosely categorized as: 1) simple decisions, such as when to hold a class or a meeting; 2) decisions in response to an obvious hazard, like canceling a peak ascent because it’s snowing; and 3) decisions made when the danger is uncertain, such as deciding whether or not to launch boats in variable weather.

Simple decisions are made frequently with little or no consequence. Decisions in the second category, when risk is obvious, tend to be infrequent but easy to make. Decisions in the third category, when danger is possible but not certain, are the most difficult to make; good responses rely heavily on sound judgment.

The ability to make good decisions is based on how completely and accurately you identify and evaluate a situation. In the previous chapter on behaviors and attitudes, we mentioned awareness and watchfulness as two good habits to foster; they help you identify and evaluate situations. But it does you no good if you collect information about your situation — dark clouds moving quickly, wind picking up — and then misinterpret the signs — we can paddle across that lake. It is possible to collect information thoroughly but selectively ignore or misinterpret it. It’s also possible to be less than thorough in gathering data to help with a decision, yet still make a good decision.

Good decisions are also rooted in your risk perception. In the previous chapter, we described how a situation that is voluntary, familiar, pleasant or predictable is perceived as less risky, while a new, dramatic, catastrophic, or difficult situation is perceived as riskier. NOLS instructor Ian McCammon has studied how outdoor leaders make decisions. He says, “One thing is certain: the way people make decisions in the face of a hazard has as much to do with their perceptions of the risk as it does with numerical probabilities.”

In other words, one’s perception of a risk influences — correctly or incorrectly — his or her ability to assess risk. If you over or underestimate a threat, you increase the likelihood of making the wrong decision.

Making good decisions, which is at the core of sound outdoor risk management, is based on the most complex human factors. Being able to recognize local weather patterns is an important skill. But being able to make decisions in relation to the weather patterns is more important — and more complicated.

Decision making, judgment, risk perceptions and other human factors are all very closely linked. This chapter digs deeper into the complexities of decision making and judgment in risk management.

How Teams Make Decisions

Effective teams use an assortment of decision-making styles. The leader can make the decision or delegate it to the group. The leader can consult with the team, put the question to a vote or try to find consensus. Effective teams choose a decision-making process that is appropriate for the situation, their group, their leader and their group culture.

You may want to choose a decision-making process that is suitable to how urgent the situation is and how capable your group is. If the circumstances are urgent (snow is falling) or the group is inexperienced at decision making (high school students), the leader decides the course of action. If there is more time to make the decision, and the group is capable and willing, then the leader can delegate more of the decision process to the group.

Here are some decision-making choices:

- Directive: The leader decides and informs the group.
- Consultative: The leader solicits group input before making a final decision himself. The input from the group may be to comment on a decision recommended by the leader, or it may be input without knowledge of the leader’s preference. In either case, the decision is made by the leader.
- Vote: The group decides by voting. Before the vote, make it clear if the decision will be by simple majority, two-thirds majority or another tally method. If the leader has any qualifications for the group decision, such as a right to veto if safety is compromised, these parameters should be made clear to the group beforehand.
- Consensus: The group makes a decision without voting. A clear definition of consensus — typically defined as a decision everyone can implement and support — should be agreed on beforehand.
- Delegate: The leader allows the group or an individual to make the decision, often within limits such as safety requirements.
Every leader has a preferred process. Each process has strengths and weaknesses, and needs to be used fittingly. Regardless of the style chosen, you and your group should be clear on how a decision is being made, who is making it, and what will be the fallback if a decision isn’t reached.

Outdoor or adventure education is a form of “experiential” learning. One of the fundamental elements of experiential education is that it is student-centered. The students or participants help direct their own learning. Naturally, students are then involved (to varying degrees) in course decisions. So participants too need to learn to be comfortable with various decision-making processes. By practicing different decision-making styles, you can challenge yourself and your group to step outside the box. This creates a team that is adept at different styles. If a decision is not urgent, and you tend to be directive or consultative, try consensus or voting. If you’re normally passive, try participating in a medical scenario or emergency drill and be directive.

**Consensus**

There is a myth that consensus is time consuming and leads to watered-down decisions where everyone compromises. A sea-kayaking group developed a travel plan using consensus for several key decisions. The leader-of-the-day sketched an overall vision and plan, then carefully listened to observations, questions and suggestions. As the plan evolved, the group made decisions and checked with each participant. If someone was uncomfortable, they actively sought a different approach until the concern was addressed. Ultimately, they devised a travel plan everyone embraced. This process was especially interesting because it challenged stereotypes of this group: the people involved were military fighter pilots.

**How People Make Decisions**

When groups make decision, we’ve shown that there are a variety of processes to choose from. When individuals make decisions, they also have a variety of methods before them. Humans have developed fascinating and complex ways reach decisions. Over the past 30 years, there has been extensive research into human judgment and decision making. When coupled with new research on how the human brain works, light is being shed on our mysterious methods of decision making.

“**Rules of Thumb**”or Heuristics

One of the most common ways to make decisions is to rely on simple “rules of thumb,” also known as heuristics. Heuristics are problem-solving aids that you adopt from your experience. You use heuristics in everyday decisions, often without thinking.

You come to some heuristics because they’ve been proven over time — measure twice, cut once. Others are supported by statistics — the advice that small samples do not accurately represent general populations.

There are two types of heuristics: “domain heuristics” and “generalized heuristics.” Domain heuristics are learned rules that work for specific activities like carpentry, climbing or skiing. Domain heuristics can be taught, such as bending your knees slightly and holding your poles up in front of you while skiing downhill. In science, Occam’s razor is a domain heuristic that advises choosing the simplest hypothesis that explains a set
of observations. Sutton's Law is another that recommends trying a common explanation first to clarify something before resorting to an uncommon one. (Sutton was a bank robber who explained that he robbed banks because "that's where the money is.")

Sometimes domain heuristics are remembered by a pneumonic like SERENE. This heuristic is used when evaluating a rock climbing anchor. SERENE stands for Solid and Simple, Equalized, REDundant and Non-Extending — all elements of a good anchor.

### Seven Heuristics for Avoiding Avalanche Hazard

1. Avoid steep slopes when the forecast hazard is high.
2. Avoid terrain traps.
3. Avoid obvious avalanche paths.
4. Avoid steep slopes during periods of natural avalanching.
5. Avoid steep slopes if you hear collapsing or whumphing.
6. Avoid recently wind-loaded slopes.
7. Avoid steep slopes during periods of sudden warming.


Someone who responds to a call of “rock” by immediately dropping into a defensive tuck position without knowing whether rocks are sliding, or someone who automatically brakes a rope when a climber calls “falling” without seeing the climber actually fall, are employing domain heuristics.

Generalized heuristics are learned from your own experience and are based on recognizing patterns. For example, having information “just pop into your head” and believing that because you did this before it was the correct choice are general heuristics.

Extrapolation, or the use of known facts to draw inferences about an unknown, is a heuristic. Medicine often relies on this — assuming that because a medication reduced symptoms in a set of patients, it will do so in others and save lives. Outdoor leaders extrapolate on weather trends all the time when making decisions.

Heuristic decisions are not always accurate, but they’re right most of the time so we come to rely on them to make quick decisions. They can be effective for many decisions. Typically, heuristics are used at the threshold of our consciousness, and there is little time spent weighing alternatives or facts. As with any decision method, heuristics have pitfalls. They may not lead to the right outcome for the situation at hand, or you may misinterpret a sign that triggers the heuristic decision. These flaws are discussed in more detail later.

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**Fact, Myth or Educated Guess?**

Finding the information we need to make a decision is not easy. There are facts we cull from science. But these facts can be elusive when trying to predict natural phenomena like weather, avalanches or illness.

There are things we think we know but they are really only based on good, not great science, logic that is sound but not solid, or experience with little depth. Our “facts” really may be educated guesses.

At the bottom of the pile of information we draw from is urban legend, folklore and myth — often masquerading as fact. To protect against mistaking folklore for fact, you should develop a bit of skepticism, a habit of questioning assumptions. Don’t be a cynic. Skeptics question; cynics distrust.

An example of this is our practice of disinfecting wilderness water. The biased warnings of the water-filter manufacturers and the dramatic statements on trailhead kiosks give the impression that the protozoa Giardia and Cryptosporidium are prevalent in the water and that illness is common. Outdoor texts and wilderness medicine courses repeat this advice. However, the facts are elusive.

The few biological studies on wilderness water give us mixed results. Some argue contamination is prevalent, others that it’s uncommon. We can’t separate illness from poor camp hygiene with illness from drinking untreated water.

There is good science that our methods for disinfecting water, boiling, chemically treating or filtering, have a low risk of making us sick.

There is folklore that clear, fast moving alpine water is clean, that protozoa sink and thus surface water is safer to drink, or conversely, that protozoa float and are disinfected by ultraviolet radiation.

We need to identify and discard the unclear scientific evidence on the risk of becoming ill from drinking untreated wilderness water and balance this with the consequences of not disinfecting our water, a nasty case of diarrhea. We take some sound but inconclusive science, mull the risk of becoming ill from how we disinfect water, and come up with a practice of habitually disinfecting water that is more than folklore, but less than clear science-based advice, it’s our best educated guess.
Expertise
Beyond heuristics, outdoor leaders — as well as pilots, physicians, paramedics, firefighters and other professionals — rely on expertise to make decisions. Research shows that experts forced to make decisions in difficult situations without much information turn to experience to arrive at a course of action. Gary Klein, author of “How People Make Decisions,” has developed a recognition-primed model, which describes this form of decision making. iv

Research suggests that when a leader comes to a decision with relative ease his brain has recognized specific patterns, finds clues within those patterns, and then quickly comes to a decision by sorting through the clues. He can intuitively recognize a situation and evaluate his choices, accepting or rejecting them without lengthy side-by-side comparisons.

The breadth of our experience therefore comes into play. An experienced medic can look at a patient’s appearance, see subtle clues, and come up with a hunch as to what is wrong — “This guy is having a heart attack!” An experienced rescuer can look at a map, terrain, a patient and the rescue team and know whether a litter-carry will be over shortly or take all night.

Using our experience and proficiency to make decisions can be expeditious. The decision happens quickly, and we move on, perhaps not even realizing we made it. But this can leave us vulnerable to errors, and leave the novice quickly behind. If you’re helping your team learn to make decisions, stop and explain what you have decided and how you came to the decision (assuming, of course, you have the time to do so). As with heuristics, there are pitfalls or traps with expert decision-making. These are detailed below.

Analytical Decision Making
The more we learn about how people think and how the human brain works, the more we realize that people tend to make decisions with unscientific methods. We recognize patterns, use mental shortcuts like heuristics and other subconscious thought processes far more commonly than an analytical process. An analytical decision-making process appears complex and laborious — the tool of the Star Trek character Spock, the logical Vulcan, not the human Captain Kirk. The flow and spontaneity of heuristics or intuitive expertise to manage time-sensitive situations might be more appealing. However, many decisions in the wilderness are less urgent, and you have the time for an analytical approach.

If you are teaching novices how to make decisions, you need to consider that their experience may be low. They haven’t developed heuristics yet and need guidance in their decisions. At the same time, an experienced leader may find herself with an unusual or especially difficult problem. In this case a systematic approach of gathering information, weighing alternatives and deciding what is best can be a valuable tool. An analytical approach can be thorough and well reasoned. It can help you organize and survey factors that will go into the decision.

Here are some approaches to making an analytical decision:

1. Describe the decision that needs to be made, or the problem that needs to be solved.
Keep it simple. Try to say it from as many viewpoints as possible. This can illuminate the problem and point the way to alternative decisions.

2. Identify parameters for the decision.
Are there clear boundaries on this decision such as limits to your resources or route options. For example, there are no helicopters available for an evacuation, or there is a river you cannot cross.

Consider guidance from your expedition’s mission and goals. NOLS has three field priorities which guide our decisions: safety of the person, care of the environment, care of the equipment.

3. Gather information.
Environmental:
• What are the hazards?
• Can they be avoided?
• If not, can exposure be mitigated?

Human:
• Do we have the experience to make this decision?
• Is the group fresh or fatigued, strong or weak?
• Do we have the people and skills to manage the problem?
• What is driving us to make the decision? Hidden agendas? Haste? Schedule?

Resources:
• What information do we need?
• What gear do we need?

Time:
• Do we have time to make this decision? What is the urgency for this decision?

4. Identify options or choices.
• Are there alternatives?

5. Compare the options. What are the consequences?
• What could go wrong? Imagine alternative scenarios, solutions and outcomes?

6. Decide, implement and evaluate
• What style will you use for your decision: delegate, consensus, vote, or the leader decides?
• Once you implement a decision, gain more information and consider new options.
An analytical process works well when the situation can be supported by research, as in figuring out whether you have enough stove fuel to make it to the end of the trip or determining if a travel plan is reasonable if you leave at 6:00 a.m. These decisions are a matter of correct formulas, data and calculations.\textsuperscript{V}

While sound analytical processes can reveal more options, poor analytical skills can leave you vulnerable to a number of traps. A common trap is failing to notice the biases you bring to your analysis. Tendencies, developed over time from experience, are a lens thorough which we view every problem. While they can be powerful assets in thinking, they can also keep our minds closed to new information and alternative solutions. Morgan Jones, in the Thinker’s Toolkit\textsuperscript{VI}, calls these tendencies “mind-sets.” We detail how to avoid this pitfall below.

Analytical processes only work well if we collect data and ponder alternatives well before making a decision. In Chapter 1 on planning and preparations, we spoke of “what if” plans. In Chapter 3, we emphasized the importance of watchfulness, among other human factors. These habits can also help you make sound decisions. An astute outdoor leader is always gathering data: Who are the strong group members? Who are the weak ones? Who has been injured or ill? Are they recovering? What are the weather patterns? Is the expedition ahead of, behind or on schedule? What are the upcoming risks — a river crossing, exposed coastline, high pass, summit attempt? Continually gathering this data over time can speed up the analysis when it’s time to make a decision.

Situational awareness, as we discussed in the previous chapter, provides a means for keeping tabs on the factor we may need when making a decision. Here is the NOLS Seamanship Triangle again, but with more information about the variables and some guidance for making a decision. The use of red, yellow or green to denote the seriousness of conditions or terrain may seem simplistic, but it can be effective. If after weighing the objective and subjective factors of a situation, the leader or the group determines the conditions are red, then the decision is to stop. If the conditions are determined to be green, they go forward. And if conditions are yellow, they may go forward but with special attention to risk.
Random Choice
It may be surprising, but random choice is not necessarily an abdication of decision-making. There are times when it is the wise choice. If you don't have the experience, information or expertise to decide between alternatives, and if the consequences are not serious, then taking a guess rather than wasting time on deliberation may be a good choice. According to NOLS' Ian McCammon, the added bonus is simply calling the process what it is and getting away from the expectation that a formal process must underlay all decisions. You'll also learn that sometimes action, which gives you experience and information, is better than endless discussion.

The decision-making methods we've detailed are not listed in a hierarchy from simple to complex or novice to expert, but are a menu of choices. We have used all of these decision-making tactics, sometimes consciously, sometimes unconsciously. Sometimes our decision is a random choice; sometimes it's based on a rule-of-thumb, an expert pattern of recognition or an analytical process. As with group decision-making processes, each of these has strengths and weaknesses. If we are aware of the process we are using, we might be able to decide if it's the most appropriate for this particular situation — and we might become more aware of the hazards that lie within each method.

Hazards in Decision Making
There is risk in everything we do, including making decisions. There are perils, sometimes called decision-traps, in every decision-making method that can lead us to make the wrong choice. But you can gain an awareness of these traps, and help avoid falling victim to them.

Pitfalls in Individual Decisions
After every decision, it is vital to receive feedback and take it to heart. It is possible to make a decision that achieves the intended outcome — yet in reality it was a poor decision with a lucky outcome. If someone never receives feedback that in fact the decision was poor, he won't have a reason to change his judgment. For example, a group of hikers wading across a river chooses a spot with a strong current, thigh-deep water and a poor run out, rather than taking more time to search for a better spot. They make it across… this time. The positive outcome, getting across the river, may mislead the team into thinking they made a good decision. But next time, they may not be so lucky.

Our memory is shaped by events associated with strong emotions. If something gives you great pleasure, you'll want to do it again. The hikers in our example may feel a strong sense of accomplishment from “tackling” their formidable obstacle. But they would be unwise to believe they should do it again and again.

Heuristic Traps
In his research, McCammon highlights six common heuristic (or rule-of-thumb) decision-making traps. A theme running throughout them is a heavy reliance on a heuristic despite contrary information.

In the familiarity trap, we believe that familiar situations are safe or controllable, when they may need to be evaluated as a unique scenario. We have a tendency to fall into a pattern of making the same decision, despite evidence that this situation has changed. In the acceptance trap, we want to make a decision that others will like. It's natural to want to be accepted by others, especially those whom we respect or want to impress. Peer pressure plays a role in this trap, and we may ignore or not recognize factors because we want the decision to be accepted.

The consistency trap is a tendency to be consistent with an earlier decision. This can make for quicker decisions and can be effective, except if we overlook clues that could lead to a better decision.

The trap of social proof trips us up when we assume that because others have done it, it must be acceptable. For example, we can be influenced by the lore that a particular route is safe. In reality, this route may have the same hazards as any other, and our good experience has just been good fortune and not indicative of the normal pattern.

Just as the brain fills in a visual blind spot in an image with the surrounding color and pattern to produce the illusion of a complete image, we have a predisposition to validate expectations about what correlates with what, and to see relationships that are not in the evidence.

Newer can be assumed to be better. We've seen this recently with the second generation of non-steroidal anti-inflammatory drugs such as Vioxx – rushed to the market, widely embraced, then dramatically withdrawn as unwanted side effects became apparent. This newness effect is our tendency to give importance to recent information or events - days of beautiful weather instead of the normal afternoon thunderstorm. This is a subtle trap in the Rocky Mountains where periods of beautiful summer weather can lure a climber to linger too long on exposed peaks, making him vulnerable to afternoon thunderstorms which are a norm.

Expertise Traps
An overconfident expert can make a mistake when she tries to use her expertise where it doesn't fit — trying to use pattern and clue recognition from one area to a completely new area. For example, an expert whitewater kayaker using her river paddling skills to perform a sea-kayak surf landing, even if she has...
never sea kayaked before. Situations may be similar, but they may require different skills.

A variation of this hazard is the expert halo trap or the expectation that someone knowledgeable in one area is able to make a decision in a new and different area. For example, the practiced outdoor leader may be assumed to have medical expertise despite limited first aid experience. Conversely, the hospital-based physician may be assumed to know how to manage a wilderness crisis, when in reality they are limited by the lack of equipment and the environment.

**Analytical Traps**

In addition to being time consuming, an inherent hazard in analytical decision-making is the challenge of identifying, comparing and evaluating all of the pertinent variables, especially if some are unknown (often the case in wilderness settings). For example, we may choose to go over a pass after careful and thorough review of the map, the weather and the group’s abilities, yet we really don’t know what the other side of the pass will be like until we get there.

Pragmatically, we need to make decisions based on incomplete information. The necessary information may be inaccessible or lacking important details. In the medical field, for example, researchers tend to report only positive results, leaving critical gaps in our understanding of a problem.

We are prone to accept too readily something based on wishful thinking. A recent example: the embracing of suction devices for snakebite treatment. The devices were developed from a theory that venom could be extracted from tissue before it caused damage. Many embraced the concept — and the devices — before research showed that removing venom, in fact, does not happen.

An analysis is only as thorough and accurate as the information we choose to include, and the rigor with which we interpret it. The outcome may look like science but can be biased by our choices or a desired alternative. Many of us have made the mistake of ignoring what the terrain is telling us in favor of what we expected to see from a map.

When using analytical decision making, consider adding a “humility factor” that takes into account that your information may be weak.

**One incident is not a trend**

The probability estimation or availability trap is a tendency to overestimate the probability of an event which is easily and vividly imagined or to believe that one dramatic event represents a class of such events.

John Ross, writing in the Polar Bear Strategy, notes how experts assess risk with data while the public assesses risk through theories and assumptions. If someone sees something frequently because it is disproportionately visible (let’s say repeated television images of a kidnapping in a foreign country), they'll assume it happens frequently when in fact it may be extremely uncommon. At the turn of the 20th century, William Osler, a distinguished physician and medical educator, remarked, “We are ever beset with the common failing of reaching conclusions from superficial observations and misled when our minds fall into the ruts of one or two experiences.”

This is a trap that outdoor program administrators should be aware of when the urge arises to create policy in response to a single dramatic event that is really an isolated incident.

Outdoor leaders can fall into this trap too, for instance, if they see one or two cases of an illness and then assume it is widespread when in fact they saw only the isolated cases. The trap is correlation equaling causation — the tendency to perceive that two events are related when in fact their connection is coincidental or even non-existent. Falling prey to this illusory correlation can lead to suboptimal practices.

**Pitfalls in Group Decisions**

Group decisions have hazards and “group-think traps” of their own, such as pressured agreement, risk polarization, support and attribution theory. Be aware that members of small groups affect each other more than members in larger groups. In a smaller group, a single member’s impact is direct and immediate. A smaller group’s decisions can be more impulsive.

In larger groups it’s more difficult to voice a question or a contrary opinion, so the tendency is to agree with the group. Peer pressure can be a real problem in hasty decisions made by large groups.

Peer pressure is also cited as a cause of risk polarization, which is an inclination for groups to take significantly more (or less) risks than individuals. In a big group, participants will compare their opinion to others, and be swayed by how they believe their group is thinking. It stems in part from a desire to be a good team member, and in part from believing that a majority’s ideas must be more correct than their own.

**Attribution theory** says groups make riskier decisions because the consequences of a decision are borne by the group, not an individual.

**Support theory** proposes that the probability of an event or the weight of evidence is inappropriately influenced by how detailed a particular description or discussion is. Greater detail can be misinterpreted as being more credible or accurate. In a similar vein, decisions can be influenced by the order in which things are discussed. Information presented later might be given more weight than information presented earlier.
In the "information cascade model," everyone starts with similar information, which then evolves over time. Some people may get good information, which they share with the group, or they may unwittingly get bad information, which is also shared. The group then makes a poor decision based on this misinformation. This isn’t a case of mindless following. It’s a case of people thinking they are getting good information, when in reality it’s poor information that is woven into a cascade of decisions. Instead of pooling and looking at all the information, the cascade becomes a sequence with a poor choice or poor information imbedded in the decision chain.

How do you avoid the group-think trap? First, if you’ve carefully built a team that can speak up and question, you should have a tool to avoid group think. You need to be careful that the order of a discussion or the time spent on an individual point does not unduly influence the final decision. Consider having the leader or expert speak last. This lessens their influence on the contributions of earlier speakers.

You need to be sensitive to the tone of your group and the subtle clues, such as body language, that alert you to individuals who are silent but not in agreement. Consider it a red flag if there are no dissenting or diverse opinions. You may have the illusion of correctness, while the group rationalizes away counterarguments, suppresses dissent and assumes consensus.

**Judgment**

Paul Petzoldt, the founder of NOLS, is also the father of outdoor-leadership education. Petzoldt’s advocacy for the use of judgment by outdoor leaders was passionate and infectious. His insistence on the importance of developing good judgment in leaders, combined with his charismatic personality and his ability to communicate and connect with young people, has had a profound influence on adventure education today.

Good judgment is not choosing the perfect answer. It’s choosing a correct answer within the limits of your experience, knowledge and abilities. Judgment is not reserved for experts with years of experience. Novices can make thoughtful, sensible and prudent choices with simple practical wisdom — common sense.

In the dictionary, judgment and decision making are essentially the same: a process of forming an assessment, analyzing and comparing the information and options, and then laying down an opinion. In the adventure-education culture, we define a subtle but important difference. Decision making is more clear and straightforward than judgment. A situation calling for judgment can imply you don’t have all the information or the circumstances are complex, fluid and at the edge of your experience. It requires creative thought. In outdoor education, we place judgment on a higher plane than simple decisions.

Experience alone does not give us good judgment. And regardless of the oft quoted “Judgment comes from experience and experience comes from bad judgment,” you don’t need bad judgment to gain wisdom from experience. Judgment only comes after reflecting on the experience. It’s a never-ending cycle of experience, reflection, learning and prediction of subsequent experience, then reflection and the cycle starts anew.

Educators can assist their students in developing judgment when they give context to the students’ experiences by explaining why and how decisions are made, suggesting alternatives to their decisions, probing how they came to a decision, and asking what factors they used. Through reflection, students and leaders can continually refine their judgment. Mentors and coaches, trusted counselors or guides are invaluable for this. Seek people who give honest feedback, and learn from them.

There was a time in adventure education when instructors took pride in the fact that there were few guidelines, protocols or rules. They routinely made independent decisions. There was very little written information for leaders. Knowledge and wisdom was communicated by word-of-mouth and experience. The famous Petzoldt quote, “Rules are for fools,” was, and still is, a slogan for adventure educators who value using their judgment over following a list of rules.

In reality, Paul was not adverse to standard practices. When Paul coined “Rules are for fools,” his intent was along a heuristic approach, that is, rules are for inexperienced folks. He thought novices needed rules to support their decisions while they gain the experience to build their judgment. He knew a rules-based approach can be useful in conveying the expectations of the organization, adding consistency to programming, or compensating for a lack of staff training opportunities or resources.

Petzoldt also said: “A leader with limited knowledge and superior judgment is better than one with vast knowledge and little judgment.” Today, there exists a cornucopia of information to feast upon — books (including this one), articles, journals, manuals, conferences, seminars and videos. But don’t confuse this wealth of information with judgment or experience. The complex decisions outdoor leaders have to make are difficult to capture in a book (believe us we’ve tried!) Despite the increase of information and know-how in adventure education, there is no parallel decline in the demand for instructors with good judgment.
There is a role for learning the lessons of history and for following standard practices and protocols. Ideally, our practices and protocols are the history of learning from those who came before us. They represent the accumulated good judgment of our peers.

And there is a role for independent judgment and decision making in leadership. Life is too complex to be predicted in an operating procedure, accepted practice, policy, rule, guideline or textbook. Leaders need decision-making skills and the judgment to make good decisions when choices are unclear and the situation is unique. It’s crucial we nurture, celebrate and teach judgment. It promotes self-responsibility. It’s realistic and practical. It’s a gift we can give our students.

**Summary Points**

- The ability to make good decisions is a cornerstone of adventure program risk management.
- Outdoor leaders make simple decisions of low consequence, decisions in response to clear hazards, and decisions when the danger is not clear, or present.
- Decision-making, judgment, risk perceptions and other human factors are all very closely linked.
- Teams use a variety of decision-making styles including directive, consultative, voting, consensus and delegating.
- Individuals make decisions in a variety of ways as well, using heuristics, expertise or an analytical process.
- Experts use observations, context and experience to arrive at a course of action. They recognize patterns and can quickly evaluate choices.
- An analytical approach of gathering information, weighing alternatives and then deciding what is best can help you organize and survey factors in the decision.
- Heuristics are simple rules-of-thumb, aids to problem solving that are used every day.
- There are numerous traps that can lead to poor decisions. Among them are consistency, social proof, proximity traps, an appearance of objectivity, the influence of emotions, inaccurate probability assessments and group think errors.
- Wise leaders know when to rely on standard practices and protocols and when independent judgment and decision-making is needed.

**Storytelling**

Stories have a particularly powerful impact, especially when presented as dramas that ignite the moral imagination and invite us all to be drawn into the action. A good story will trump a good fact any day of the week. Many instructors have experienced the feeling of helplessness as their well researched facts and logical teaching progression crumble in the face of a student’s influential, but inaccurate story.

What makes these stories so powerful? There are strong links between our emotional and cognitive centers in our brain. Our brains seem built to process stories better than other forms of input. It’s not just awful things that happened in these stories, it’s that they happened to the person telling the story, or a close friend, cousin, acquaintance. It has an empathetic hook.

Stories are memorable, and trigger our bias towards what is easy to recall. They can frame evidence in a particular context that can be manipulated rhetorically by the teller. They can be especially powerful if they present things outside the control of the main character and generate sympathy for the victim.

You can find a sense of what the culture values by listening to an epic tale told around the fire or the stove. Often these stories have heroic elements; overcoming weather, pioneering a new route, overcoming adversity, demonstrating strength and stamina. They often tell of a long and strenuous outdoor trip that pushes people’s limits, or the natural event (rockfall, lightning, avalanche, flashflood) that places people at the edge of what they can control. They are memorable, sometimes frightening learning experiences that afterwards are glamorized in the epic tale.

We need to listen carefully to our stories. They can influence the novice who does not yet understand that epics tend to award the bold rather than the prudent, the unprepared rather than the prepared. Vilhjalmur Stefansson, Canadian arctic explorer, said that ‘adventure was a sign of incompetence.’ Whenever someone came back telling a story of adventure, he was thinking that they screwed up.
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i Tape recording debriefing of COBS Course C-10 NOLS Historical Archives. Lander, Wyoming.


 xv Reference Websters Colleague
Clear and concise instruction develops team competency and self-awareness: an instructor gives a class on top rope anchors.